

What is claimed is:

1. A system for binding a stack of pages along an edge thereof to form a book,
the system comprising:

an elongated strip having opposed ends, opposed side edges extending
5 between the ends, and an electrical resistivity between the ends, the strip having a plurality
of spaced-apart cuts extending therethrough inwardly from and perpendicular to the side
edges in alternating fashion, so as to form a substantially serpentine electrically conductive
path between the ends, the strip further having an adhesive with a predetermined melting
temperature in contact with at least a portion of a first side thereof, the strip first side
10 positionable in contact with a binding edge of a stack of pages to be bound; and

means for introducing an electrical current along the strip between the ends,
the current sufficient to heat the strip to a temperature at least as great as the melting
temperature in order to melt the adhesive and thereby bind the stack of pages together
along the binding edge.

2. The system recited in Claim 1, wherein the adhesive-contacted portion
comprises a central portion in spaced relation from the ends, and the strip further has
opposed end portions on either side of the central portion, the end portions substantially
uncoated with adhesive.

3. The system recited in Claim 2, wherein the end portions comprise the
electrical current introducing means.

4. The system recited in Claim 3, wherein the electrical current introducing means comprise a pair of conductive metal contacts affixable to the strip end portions.

5. The system recited in Claim 1, wherein the strip comprises a flexible material selected from the group consisting of metal foil, metal mesh, a substrate to which a conductive material has been applied, and a carbon fiber material.

6. The system recited in Claim 5, wherein the substrate is selected from a group consisting of paper, plastic, and cloth.

7. The system recited in Claim 5, wherein the conductive material is selected from a group consisting of conductive ink, foil, and conductive paint.

8. The system recited in Claim 1, wherein the strip comprises a conductive metal foil.

9. The system recited in Claim 8, wherein the metal foil comprises one of brass foil and aluminum foil.

10. The system recited in Claim 1, wherein a portion of the strip adjacent each of the side edges is uncoated with adhesive, the side edge portions foldable upward to surround the adhesive.

11. The system recited in Claim 1, wherein the adhesive is positioned in at least two sectors comprising two end sectors having a gap therebetween, the gap having a length substantially less than a length of the end sectors, the gap providing a location for excision if shortening of the strip is desired.

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12. The system recited in Claim 11, wherein the strip further comprises a double-sided pressure-sensitive tape adhered to a second side of the strip opposed to the first side, the tape positioned beneath each gap for providing mechanical reinforcement and further providing means for affixing the strip to an inside of a cover spine.

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13. The system recited in Claim 1, wherein the strip is longitudinally excisable if desired up to a predetermined distance from the side edges, the predetermined distance determined by a length of the cuts.

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14. The system recited in Claim 1, wherein the adhesive comprises a hot-melt adhesive applicable to the strip in solid form.

15. The system recited in Claim 1, further comprising a generally squared-"U"-shaped holder having a gap between two arms thereof, the gap having a width sufficient to admit the page stack and a cover.

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16. The system recited in Claim 1, wherein the electrical current introducing means comprises a power supply and a switch in electrical connection between the power supply and the strip ends, the switch having an “on” position for activating the power supply and an “off” position for deactivating the power supply.

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17. A method for binding a stack of pages along an edge thereof to form a book, the method comprising the steps of:

positioning a first side of an elongated strip in contact with a binding edge of a stack of pages desired to be bound, the strip having:

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opposed ends;

opposed side edges extending between the ends;

an electrical resistivity between the ends;

a plurality of spaced-apart cuts extending therethrough inwardly from and perpendicular to the side edges in alternating fashion, so as to form a substantially serpentine electrically conductive path between the ends; and

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an adhesive with a predetermined melting temperature in contact with at least a portion of a first side thereof; and

melting the adhesive to bind the stack of pages together along the binding edge.

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18. The method recited in Claim 17, wherein the melting step comprises introducing an electrical current along the strip between the ends, the current sufficient to heat the strip to a temperature at least as great as the melting temperature.

5 **19.** The method recited in Claim 17, wherein the electrical current introducing step comprises affixing a pair of conductive metal contacts to the strip end portions and flowing an electrical current across the strip between the ends thereof.

10 **20.** The method recited in Claim 17, further comprising the step, prior to the melting step, of folding a portion of the strip adjacent each of the side edges upward to surround the adhesive, the folded portions substantially without adhesive in contact therewith.

15 **21.** The method recited in Claim 17, wherein the adhesive is positioned in at least two sectors comprising two end sectors having a gap therebetween, the gap having a length substantially less than a length of the end sectors, and further comprising the step of excising the strip along the gap to achieve a shortening of the strip if desired.

20 **22.** The method recited in Claim 21, further comprising the steps, prior to the melting step, of:

 adhering a double-sided pressure-sensitive tape to a second side of the strip opposed to the first side; and

affixing the strip second side to an inside of a cover spine.

23. The method recited in Claim 17, further comprising the step of excising the strip longitudinally if desired up to a predetermined distance from the side edges, the predetermined distance determined by a length of the cuts.

24. The method recited in Claim 17, further comprising the step, prior to the positioning step, of applying a hot-melt adhesive to the strip in solid form.

25. The method recited in Claim 17, wherein the positioning step comprises placing the page stack and a cover between two arms of a generally squared-"U"-shaped holder.

26. The method recited in Claim 17, wherein the melting step comprises forming an electrical connection between a power supply and the strip ends and activating the power supply.

27. The method recited in Claim 17, further comprising the step, prior to the melting step, of positioning a second side of the strip opposed to the first side adjacent an inside of a cover spine, and wherein the melting step comprises permitting the melted adhesive to flow through the cuts, thereby binding the stack to the cover spine inside.

28. A book-binding element comprising:

an electrically resistive strip having a plurality of spaced-apart cuts extending therethrough inwardly from and perpendicular to opposed side edges thereof in alternating fashion, so as to form a substantially serpentine electrically conductive path between
5 opposed ends thereof;

an adhesive with a predetermined melting temperature in contact with at least a portion of a first side of the strip, the strip first side positionable in contact with a binding edge of a stack of pages to be bound; and

means for introducing an electrical current along the strip between opposed
10 ends thereof, the current sufficient to heat the strip to a temperature at least as great as the melting temperature in order to melt the adhesive and thereby bind the stack of pages together along the binding edge.

29. The book-binding element recited in Claim 28, wherein the adhesive-
15 contacted portion comprises a central portion in spaced relation from the ends, and the strip further has opposed end portions on either side of the central portion, the end portions substantially uncoated with adhesive.

30. The book-binding element recited in Claim 29, wherein the end portions
20 comprise the electrical current introducing means.

31. The book-binding element recited in Claim 28, wherein the strip comprises a flexible material selected from the group consisting of metal foil, metal mesh, a substrate to which a conductive material has been applied, and a carbon fiber material.

5 **32.** The book-binding element recited in Claim 31, wherein the substrate is selected from a group consisting of paper, plastic, and cloth.

33. The book-binding element recited in Claim 31, wherein the conductive material is selected from a group consisting of conductive ink, foil, and conductive paint.

10 **34.** The book-binding element recited in Claim 28, wherein the strip comprises a conductive metal foil.

35. The book-binding element recited in Claim 34, wherein the metal foil
15 comprises one of brass foil and aluminum foil.

36. The book-binding element recited in Claim 28, wherein a portion of the strip adjacent each of the side edges is uncoated with adhesive, the side edge portions foldable upward to surround the adhesive.

20 **37.** The book-binding element recited in Claim 28, wherein the adhesive is positioned in at least two sectors comprising two end sectors having a gap therebetween,

the gap having a length substantially less than a length of the end sectors, the gap providing a location for excision if shortening of the strip is desired.

5 **38.** The book-binding element recited in Claim 37, wherein the strip further comprises a double-sided pressure-sensitive tape adhered to a second side of the strip opposed to the first side, the tape positioned beneath each gap for providing mechanical reinforcement and further providing means for affixing the strip to an inside of a cover spine.

10 **39.** The book-binding element recited in Claim 28, wherein the strip is longitudinally excisable if desired up to a predetermined distance from the side edges, the predetermined distance determined by a length of the cuts.

15 **40.** The book-binding element recited in Claim 28, wherein the adhesive comprises a hot-melt adhesive applicable to the strip in solid form.